

Response to Office Action
U.S. Appln. No. 09/909,910

Atty Dkt. No. Q65531

REMARKS

I. Formal Matters.

Claims 1, 2 and 5 have been examined. All remaining claims are either withdrawn from consideration or cancelled from the application.

Applicant thanks the Examiner for returning an initialed copy of Form PTO-1449 submitted with the Information Disclosure Statement filed May 28, 2004, indicating due consideration of the references cited therein.

II. Claims.

Examiner continues to reject claims 1, 2, and 5 as being allegedly obvious over *Sano* in view of *Matsuzaki* under 35 U.S.C. §103(a).

Claim 1 requires that one sustain electrode be provided for a pair of first and second pixel cells that are adjacent to each other in the column direction. Also, one sustain electrode is positioned above alternating row ribs. Claim 1 additionally requires each pixel cell, individually, to have one sustain-side bus electrode and one scan-side bus electrode. Further, each sustain electrode has two sustain-side bus electrodes connected thereto, and each bus electrode is spaced from the row rib in the column direction.

Initially Examiner asserts that *Sano* fails to teach or suggest a single sustain electrode for two adjacent pixels and relies on *Matsuzaki* to show this feature. Secondly, the Examiner concedes that *Matsuzaki* fails to teach or suggest that each sustain electrode has two sustain-side bus electrodes connected thereto. Thirdly, the Examiner relies on *Sano* to provide bus electrodes

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vertically spaced from row ribs in the column direction. Fourth, the Examiner asserts that *Sano* teaches one sustain-side bus electrode for each pixel. And finally, fifth, the Examiner contends that it would have been obvious to combine the single sustain electrode of *Matsuzaki* with two sustain-side bus electrodes, one in each pixel as allegedly taught by *Sano*, to obtain the elements of claim 1 and alleges improved contrast is the motivation to combine.

Addressing four and five above, *Sano* teaches alternating scan-bus electrodes and sustain-bus electrodes. *Sano* neither teaches nor suggests consecutive or adjacent scan-bus and sustain-bus electrodes. More particularly, *Sano* does not suggest the following electrode sequence: scan-bus, scan-bus, sustain-bus, sustain-bus, scan-bus, scan-bus., etc. Rather, *Sano* discloses alternating scan-bus, sustain-bus, scan-bus, sustain-bus electrodes, which facilitate increased pixel density, and decreased pitch between electrodes (col. 4, lines 51-58 and 64-69; Figs. 4 and 7). The increased pixel density leads to additional design considerations.

Sano teaches multiple configurations of barrier ribs to facilitate desired particle discharge yielding high resolution (*Sano* col. 24, lines 11-38). *Sano* discloses various barrier rib configurations accounting for various electrode arrangements, none of which are equivalent to the electrode configuration required in claim 1 (col. 22, lines 55-65; col. 23, lines 45-48; col. 23, line 65 to col. 24, line 3; col. 24, line 49 to col. 26, line 3). In fact, even where *Sano* discloses a single sustain electrode (Xe) for two adjacent emission units (eu), *Sano* discloses a single very wide hybrid bus electrode (42) connected to the sustain electrode (*Sano*'s Fig. 79, with reference numerals inserted referring to *Sano*'s Figs. 4, 7 and 79). The Examiner asserts that *Sano* teaches one sustain-bus electrode per pixel, where the Examiner relies on Figs. 4 and 7A (OA page 4).

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However, *Sano* suggests one bus electrode per display electrode, as evidenced by Fig. 79, and further supported by Figs. 4 and 7A. In eighty-one figures, three invention embodiments, and fifteen "modifications", *Sano* fails to disclose, teach or suggest a single sustain electrode with two sustain-side bus electrodes connected thereto (col. 19, lines 8-9; col. 38, lines 37-40).

The following summarizes the failure of secondary reference *Matsuzaki* to provide the claim elements lacking in the primary reference, two sustain-side bus electrodes connected to one sustain electrode, each sustain-side bus electrode vertically spaced above and below the row rib. *Matsuzaki* discloses a single bus electrode 192 over alternating row ribs beneath and connected to discharge electrode 19 (*Matsuzaki*'s Fig. 6A; col. 8, line 62 to col. 9, line 1). Therefore, *Matsuzaki*'s bus electrode 192 fails to provide the two sustain-side bus electrodes connected to one sustain electrode claimed by applicant. Additionally, 62 and 192 of Fig. 6A fail to provide two bus electrodes per pixel, as expressly required by the claim.

As to *Matsuzaki*'s disclosure of bandlike members 18a, these members are only shown and disclosed as part of an '18' matrix (*Matsuzaki*'s Figs. 6b and 8b; col. 8, line 62 to col. 9, line 67). Said matrix is neither disclosed nor claimed by *Applicant*. Further, bandlike members 18a are clearly shown overlying a rib or, at least, juxtaposed to a rib. (*Matsuzaki*'s Figs. 6b and 8b). The position of bandlike members 18a associated with bus electrode 192 (where bus electrode 192 was connected to a discharge electrode extending into neighboring pixels) is taught as being desirable to *overlay* a barrier rib (see *Matsuzaki*'s col. 9, lines 53-57 and 62-65).

While bandlike member 18a of bus electrode 62 is taught as being arranged differently, "so as to cover the opening portion of the through path" (col. 9, lines 59-61), bus electrode 62

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(*Matsuzaki*) is clearly not associated with a sustain electrode overlying two adjacent pixels (*Applicant's* claim 1). *Matsuzaki* fails to disclose one sustain electrode spanning adjacent pixels with two sustain-side bus electrodes connected to it, each sustain-side bus electrode spaced in the column direction from a row rib, one above and one below the row rib.

Sano and *Matsuzaki*, neither individually, nor in combination, do not teach or suggest a single sustain electrode for two adjacent pixels with two sustain-side bus electrodes connected to said single sustain electrode, one sustain-side bus electrode in each pixel, and each sustain-side bus electrode vertically spaced above or below the row rib. One example of this patentably distinguishable difference is illustrated in the non-limiting embodiment shown in *Applicant's* Fig. 7. For failing to teach or suggest each and every element of *Applicant's* claim 1, withdrawal of the 35 U.S.C. §103(a) rejection of *Applicant's* claim 1 over *Sano* in view of *Matsuzaki* is believed to be in order, and is respectfully requested.

Lastly, although combining *Sano* and *Matsuzaki* fails to teach or suggest each and every element of claim 1, we still address the motivation to make such combination asserted by the Examiner. The Examiner asserts that the motivation to combine *Sano* and *Matsuzaki* is to obtain "lower brightness in the dark state and higher brightness in the bright state", improved contrast (OA page 4). The Examiner's asserted motivation raises several questions. Improved contrast over what? Over *Sano* alone? Over *Matsuzaki* alone? Over *Applicant's* disclosed conventional art? And how would the combination of *Sano* and *Matsuzaki* result in improved contrast?

Separation of the bus electrodes from the row ribs provides increased luminance for a given discharge, not improved contrast (*Sano* Fig. 7b; *Application* paragraphs [0029] and

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[0031]). *Sano*'s intention is to provide improved contrast or definition, but not by spacing of electrodes from row ribs. Rather, *Sano*'s objective is to control gas discharge, considering high voltage, increased pixel density, and decreased bus electrode pitch, by providing various barrier rib configurations to achieve improved definition (*Sano* col. 4, lines 26-30 and 64-68). *Matsuzaki*'s black matrix provides increased contrast, teaching away from the spacing of the bus electrodes from the row ribs to provide improved luminance in *Sano* and *Application*.

Applicant's two parallel bus electrodes appear as a decreased total resistance for each sustain electrode, decreasing electrical power consumption for a given illumination level (*Application* paragraphs [0029] and [0136]). Where the combination of parallel bus electrodes and bus electrode spacing from the row ribs provides increased luminance *efficiency*. Applicant asserts that the Examiner fails to make a *prima facie* case of obviousness, because the combination of *Sano* and *Matsuzaki* fails to provide each and every element of Applicant's claim 1, and further there is no logical motivation to combine the two teachings. Therefore, in addition to failing to teach and suggest each and every element of claim 1, there is no motivation to combine *Sano* and *Matsuzaki* to obtain claim 1, and withdrawal of the alleged obviousness rejection of claim 1 over *Sano* in view of *Matsuzaki* is asserted as proper.

Claims 2 and 5. If independent claim 1 is found to be patentably distinguished from *Sano* and *Matsuzaki*, then claims 2 and 5 are likewise asserted to be in condition for allowance as depending from an allowable independent claim.

Additionally, claim 2 has independent grounds for patentability over *Sano* in view of *Matsuzaki*, in that neither individually, nor in combination do *Sano* and *Matsuzaki* teach or

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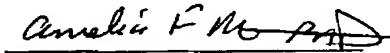
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suggest two sustain-side bus electrodes electrically connected to each other. For this reason, withdrawal of the alleged obviousness rejection of claim 2 over *Sano* in view of *Matsuzaki* under 35 U.S.C. §103(a) is believed to be in order and is hereby respectfully requested.

In view of the preceding remarks, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue that the Examiner feels may be best resolved through a personal or telephonic interview, the Examiner is kindly requested to contact the undersigned at the local telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,


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